

ABSTRACT

A regenerated signal process circuit of an optical disk device is developed to solve the problem that a jitter margin is lowered without an optimum regeneration condition because, when data is regenerated independent of a transfer rate, a data frequency fluctuates against a set value of an AGC, a waveform equalization circuit, a binarization circuit, or the like. In a signal process circuit, a set value of the AGC (104), the waveform equalization circuit (105), the binarization circuit (106), or the like is controlled by referring to the amount of oscillation control current of the VCO (1002) of a frequency synthesizer. The characteristics of the VCO of the data PLL (1001) is set equal to the characteristics of the VCO (1002) of the frequency synthesizer, and each set value is controlled by referring to the oscillation control current of each VCO. Then, the reference current is switched depending on the synchronization state of the data PLL (1001). In addition, the gain of the charge pump (114) is adjusted based on the division ratio of the N divider (111) such that the frequency synthesizer has loop characteristics of constant and stable oscillation.